DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-025898
Date Inspected: 10-Aug-2011

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 700
OSM Departure Time: 1530
Location: Job Site

CWI Name: John Pagliero

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**CWI Present:**	☑ Yes	☐ No	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☐ No	☑ N/A
				Approved WPS:	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: SAS Tower

Summary of Items Observed:

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At Tower Base Elevation 13Meters, Electro Slag Welding (ESW) T-joint E-041 location ‘R’, QA randomly observed ABF/JV qualified welder Jeremy Dolman continuing to perform CJP groove welding repair on the top of the welded ESW due to ABF QC noted linear indications that propagated into the Tower skin plate. The top of the ESW weld joint is being repaired with approval through Repair Welding Request (RWR) # 201108-007. The welder was observed welding in the 2G (horizontal) position utilizing Shielded Metal Arc Welding (SMAW) with 1/8” diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1000-Repairs. The weld repair was preheated to more than 300 degree Fahrenheit using propylene gas torch prior welding. During the shift, ABF QC John Pagliero was noted monitoring the welder. Measured welding parameter during welding was 110 amperes on a 1/8” diameter E7018H4R electrode. Before the end of the shift, 2G SMAW welding repair on ESW weld joint mentioned above was completed. The welder started carbon air arcing the run off tab he used during welding which he did until the end of the shift.

At Tower Base Elevation 13Meters, Electro Slag Welding (ESW) T-joint N-045 location ‘E’, QA randomly observed ABF/JV qualified welder Richard Garcia continuing to grind the groove of the excavation using die grinder after carbon air arc gouging. The smooth grinding was completed and the welder had asked ABF QC John Pagliero to check the condition of the excavation. ABF QC John Pagliero performed Visual Test (VT) and Magnetic Particle Testing (MT) on the boat shape excavation with affirmative results. This QA verified the VT

and MT performed by ABF QC with same results. This boat shape repair excavation was measured 110mm long x 45mm wide x 45mm deep. Since this repair was still awaiting approval from the Engineer, the welder has moved to location 'N' and performed carbon air arc gouging on top of the ESW weld joint QC MT detected linear indication.

At ESW weld T-joint N-041 location 'N', ABF welder Richard Garcia performed carbon air arc gouging on top of the weld joint due to QC MT detected linear indication that propagated into the Tower skin plate. The welder also carbon arc the overlap that was QC MT detected from top of both sides of the weld cover (4 inches long). After the gouging completion, the welder has ground smooth the groove of the excavated linear indication. The grinding was also completed and the welder had asked for ABF QC John Pagliero to check the condition of the excavation. ABF QC John Pagliero performed Visual Test (VT) and Magnetic Particle Testing (MT) on the boat shape excavation with affirmative results. This QA verified the VT and MT performed by ABF QC with same results. This boat shape repair excavation was measured 190mm long x 45mm wide x 20mm deep.

At around 0900 hours during the shift , Caltrans Engineer Doug Wright verbally approved the repair welding of the UT detected repair excavation at ESW T-joint N-045 location 'E'. ABF welder Richard Garcia moved his welding gears and started preheating the repair excavation using propylene gas torch. After attaining the required preheat of more than 300 degree Fahrenheit, the welder was observed welding in the 3G (vertical) position utilizing Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1000-Repairs. During the shift, ABF QC John Pagliero was noted monitoring the welder. Measured welding parameter during welding was 125 amperes on a 1/8" diameter E7018H4R electrode. Later during the shift, it was learned from QC Bonifacio Daquinag that the weld repair mentioned above was approved though Repair Welding Request (RWR) # 201108-010. At the end of the shift, 3G repair welding was still continuing and should continue tomorrow.

At Tower Base Elevation 13Meters outer East shear plate bevel preparation, ABF foreman Rory Hogan and other ABF personnel were noted continuing to fix the top bevel of the shear plate by grinding. While fixing this bevel, other ABF personnel were also setting up the bevel cutting of the outer West shear plate. Grinding of bevel on the outer East shear plate and prepping for the bevel cutting on the outer West continued until the end of the shift.

At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC VT/MT of the ESW weld joints top and top one foot vertical weld. The VT/MT of the top portion of the ESW weld joints is being made as partial inspection in anticipation of limited access when the 13Meters diaphragm is installed. The QA verification was performed to verify that the welding and the VT/MT inspection performed by the QC inspector meet the requirements of the contract documents. At the conclusion of the QA verification it appeared that the weld and the QC inspection complied with the contract documents.

ESW Weld Location Joint Type QA MT Remarks

'C' (S-044) Butt-joint MT Passed Top minor repair and top one foot of vertical weld.
'D' (W-044) Butt-joint MT Passed Top minor repair and top one foot of vertical weld.
'G' (S-045) T-joint MT Passed Top repair and top one foot of vertical weld.
'H' (W-045) T-joint MT Passed Top repair and top one foot of vertical weld.
'E' (N-045) T-joint MT Passed Top (UT) repair excavation.

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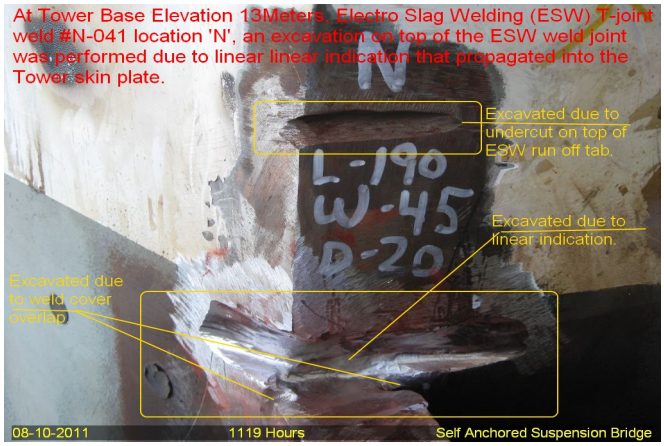
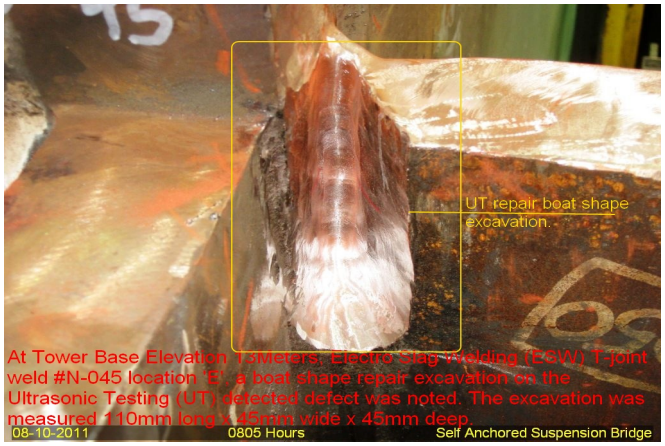
'N' (N-041) T-joint MT Passed Top repair excavation due to linear indication.





Summary of Conversations:

No significant conversation ocurred today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo,Joselito	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer